UNITED STATES DISTRICT COURT
for the
DISTRICT OF MASSACHUSETTS

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UNITED STATES OF AMERICA, .
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Plaintiff, .
. CIVIL ACTION
v. . No. 85-0489-MA
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METROPOLITAN DISTRICT COMMISSION, .
et al., .
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Defendants. .
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CONSERVATION LAW FOUNDATION OF .
NEW ENGLAND, INC., .
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Plaintiff, .
. CIVIL ACTION
v. . No. 83-1614-MA
.
METROPOLITAN DISTRICT COMMISSION, .
.
Defendants. .
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MWRA MONTHLY COMPLIANCE REPORT
FOR MARCH 1999 AND
PROGRESS REPORT AS OF APRIL 15, 1999

The Massachusetts Water Resources Authority (the "Authority") submits the following monthly compliance report for the month of March 1999 and supplementary compliance information in accordance with the Court's order of December 23, 1985, subsequent orders of the Court and undertakings of the Authority.

I. Schedule Six.

A status report for the scheduled activities for the month of March 1999 on the Court's Schedule Six, certified by Douglas B. MacDonald, Executive Director of the Authority, is attached hereto as Exhibit "A."

A. Activities Completed.

1.Commence Construction of Regionwide Floatables Controls and Outfall Closing Projects.

In March, the Authority began construction activities associated with combined sewer overflow ("CSO") floatables controls and outfall closing projects, in compliance with Schedule Six. While the Authority, the Boston Water and Sewer Commission ("BWSC") and the cities of Cambridge and Somerville will each perform work in this category, the Authority's projects are the first to move into construction.

The Authority's projects include closing two of the five existing CSO outfalls (MWR 021 and MWR 022) along the Boston Marginal Conduit ("BMC"), which can overflow to the Lower Charles River Basin along the Esplanade during extreme storms. Authority crews performing this work began construction activities on March 25. The Authority expects the outfall closings will be completed in the Summer of 1999.

Other Authority projects, to be performed by contractors, involve installation of underflow baffles in 11 CSO regulator structures that lie upstream of the other three BMC outfalls (MWR 018, MWR 019, and MWR 020) to provide floatables control. The Authority has awarded the first of two contracts, addressing four of the 11 CSO regulator locations, and expects to issue a Notice to Proceed for this contract later this month. This work is scheduled to be complete by the Fall of 1999. The Authority expects to complete final design for its second underflow baffle contract, which will address the remaining seven regulator locations, by June 1999 and to award the contract by late Summer.

BWSC and the City of Cambridge have commenced design services associated with their floatables control projects, while the City of Somerville currently is investigating means to eliminate CSO discharges at the one location in Somerville where floatables control is proposed (SOM 001A). If elimination is not feasible, Somerville will commence design of floatables control. The Authority expects that all construction work related to outfall closings and floatables control will be completed by May 2001, in compliance with Schedule Six.

B. Activities Not Completed.

1. Complete Construction of Cottage Farm Facility Upgrade.

As anticipated, the Authority completed construction of the upgraded facilities at the Cottage Farm CSO facility by March 31, 1999, with the exception of the permanent control room and automated control systems. The upgraded facilities include replacement of the chlorination system for disinfection, the addition of a dechlorination system and a new building to house both disinfection and dechlorination chemicals. As previously described, the Authority installed an interim semi-automatic control system to allow operation of the new facilities on schedule while work on the permanent control room and systems proceeds. The new facilities are available for operation during the next storm event that results in a discharge through the facility.

As previously reported, the plans for the upgraded facility call for converting the room used previously for sodium hypochlorite storage into the permanent control room. Once construction was underway and the sodium hypochlorite tanks removed, the contractor found extensive deterioration in the floor beneath the tanks, caused by sodium hypochlorite leakage.1 Additional shoring of the floor and concrete repairs are necessary before the installation of the permanent equipment for chlorination and dechlorination control. The Authority found that integration of the new floor into the existing structure required more design effort than had been anticipated, which has delayed completing the final plans for this work with the contractor. The Authority now expects the floor repairs and installation of the permanent equipment will be completed by September 1999. Once the permanent control system is operational, the formal period of start-up and optimization of the new treatment systems anticipated in Footnote 35 to Schedule Six will begin.

C. Progress Report.

1. Harbor Management.

(a) Construction of Effluent Outfall Tunnel.

During the past month, the contractor for the Effluent Outfall Tunnel completed removal of the former pump station from the tail tunnel and poured the concrete to form the bulkhead that seals the tail tunnel from the remainder of the tunnel.2 The contractor also completed the three pours to form the tunnel elbow connecting the tunnel to the Deer Island shaft. Work is now underway to install forms and supports for placing concrete to form the bottom 20 feet of the shaft. The first of two pours has been completed, and the concrete work is curing. Once the concrete is cured, the contractor will strip and reposition the forms for the second pour, scheduled to take place by early next week.

In addition, the contractor is continuing to work on the installation of the two sodium bisulfite lines to be used to dechlorinate the treated effluent. The contractor drilled the vertical and horizontal holes from the surface to the starter tunnel and installed fiberglass pipe in the holes. Grouting of the fiberglass pipe and installation of the 850-foot lines along the tunnel walls will follow. The contractor also has made progress in forming the connection between the top of the shaft and the disinfection basins and in general site clean-up.

Completion of the concrete elbow is an important construction milestone, and during the first three months of 1999, the contractor experienced only a few days of schedule slippage. A number of key activities remain to be completed, including removal of the safety plugs at the base of the diffuser risers, and difficulties encountered in these tasks could delay completion of the tunnel. Based on the contractor's recent performance and current schedule, however, the Authority continues to anticipate that the tunnel will be completed in September 1999.

(b) Electrical System Modifications for Deer Island Pump Stations.

In the last month, Deer Island Treatment Plant staff successfully completed performance testing of all the harmonic filters recently installed in the Lydia Goodhue and North Main Pump Stations. Included as part of the testing were operations using multiple pumps at both pump stations. Harmonic distortion appears to be at an acceptable level, allowing unrestricted operation of multiple pumps. Full scale testing and implementation will take place during the next large flow event.

(c) Demolition and Construction on Nut Island.

At the Nut Island Headworks facility, where work on a surge containment structure is proceeding, the demolition of existing structures within the sandcatcher area is now complete. The contractor has also erected new walls and is in the process of installing cover slabs. In addition, the contractor has installed temporary plugs in the end of the emergency storage area to permit concrete placement for the new gate.

2. Residuals Program.

(a) Pelletizing Plant Expansion.

The contractor for expansion of the pelletizing plant continues to work on completing the safety-related items for the two new dryer trains that were recommended following the December 1998 fire in the plant. Based on the current schedule, the Authority expects the contractor to complete the remaining work on the two new dryer trains by the end of April, after which performance testing of the new trains can resume.

(b) Report on Backup Disposal Plan.

Pursuant to Schedule Six, the Authority is attaching as Exhibit "B" its report on actions taken during the past six months on the backup residuals disposal plan. With the Commonwealth, the Authority is filing a joint progress report on the implementation of their Memorandum of Understanding regarding the beneficial use of biosolids.

With regard to the Town of Walpole's request that the Authority seek relief from one component of the backup residuals disposal plan, the requirement for an in-state backup sludge disposal site, the Authority is continuing to respond to questions raised by the Environmental Protection Agency ("EPA") regarding experience to date using the backup program. The Authority understands EPA's review of the issues to be continuing.

3. CSO Program.

(a) Cambridge Sewer Separation.

During the past month, the Authority, in conjunction with the City of Cambridge, continued efforts to address the issues that have arisen regarding the significant increases in cost and scope of the Cambridge sewer separation project.3 Consultants for both the Authority and Cambridge have developed detailed scopes of services associated with additional planning and engineering efforts necessary to re-evaluate sewer separation and other CSO control alternatives for Alewife Brook. However, the Authority and Cambridge are not yet in agreement

concerning what portions of the current recommended CSO control plan for Alewife Brook should be subject to re evaluation, what information is necessary to complete the re-evaluation and the appropriate implementation schedule for the re-evaluation and subsequent work. Authority and Cambridge staff are meeting frequently in an attempt to resolve outstanding issues and hope to reach agreement in the next several weeks.

While these discussions are in progress, Cambridge is proceeding with sewer separation construction for which design has been completed. Further work beyond two contracts already completed and two now underway is on hold, pending resolution of the issues regarding the scope and nature of the overall project.4

(b) Variance for Alewife Brook and Upper Mystic River CSO Discharges.

The Authority has begun work on a number of tasks related to the Variance for CSO discharges to the Alewife/Upper Mystic Basin issued March 5, 1999 and described in last month's report.5 The Authority is developing the scope for necessary consultant services, as well as its plans for conducting receiving water sampling during 1999 in the Alewife/Upper Mystic Basin.

In addition to its own activities, the Authority is in regular communication with the Watershed Basin Team Leader appointed by the Secretary of Environmental Affairs for the Alewife-Mystic region, to exchange information on issues of mutual interest and importance within the watershed. The Authority anticipates that this coordination will continue over the total 36-month term of the Variance, as various groups gather information on water quality and as the Authority develops information relative to the Cambridge system and the re-evaluation of appropriate CSO control technologies for Alewife Brook described above.

(c) Chelsea Relief Sewers.

The Authority is finalizing design plans and specifications for Chelsea Branch Sewer relief, Chelsea Trunk Sewer relief and CHE 008 outfall repairs and floatables control.6 Relative to the latter two projects, the Authority recently filed a Notice of Project Change ("NPC") with the MEPA Unit of the Executive Office of Environmental Affairs. The NPC describes modifications to the recommended plans for the projects that have developed in the course of design.

For the Chelsea Trunk Sewer relief project, the Authority has increased the diameter of the replacement sewer from 24 inches to 30 inches, providing additional capacity for wet weather flows and further reducing CSO discharges at outfalls CHE 002, CHE 003 and CHE 004.7 The Authority has also added rehabilitation of outfalls CHE 002 and CHE 003 to the project, after field investigations during design indicated poor structural conditions. For the CHE 008 outfall project, the Authority plans more extensive replacement of the outfall pipe and new measures for slope protection along Chelsea Creek.

The Authority indicates in the NPC that these project changes provide additional benefits, do not cause significant environmental impacts and do not affect project schedules. A 21-day public comment period on the NPC ended on April 12. MEPA is expected to issue a decision whether to require further review by April 19.

4. Framingham Interceptor.

As reported previously, the Authority hired a consultant to study odor and corrosion in the Framingham interceptor system and make recommendations for corrective measures.8 The study concluded that the source of the severe problems in the Authority's interceptor lies in the Ashland and Framingham municipal sewer systems upstream, where conditions contribute to the formation of unusually high amounts of hydrogen sulfide gas.

Staff recently presented the consultant's recommendations for remedial steps to the Board of Directors. The Board authorized staff to pursue a number of activities over the next several years, including developing appropriate sulfate and sulfide limits for municipal and industrial discharges, planning for physical improvements to the community collection systems, upgrading the chemical addition facility at the Framingham Extension Relief Sewer pumping station and adding exhaust air treatment at certain locations along the interceptor.

In the meantime, the Authority has taken certain steps to minimize odors resulting from operation of the new Framingham pumping station completed in 1998, and other steps are under review.9 The Authority continues to operate that facility only as needed during storm events.

By its attorneys,

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Notes:

1. See Compliance and Progress Reports for November 16, 1998 (pp. 10 13), December 15, 1998 (pp. 10-11), January 15, 1999 (pp. 21-22), February 12, 1999 (p. 16) and March 15, 1999 (pp. 9-10) for previous reports on this problem and the Authority's plans to address it.

2. The new pump station and discharge piping installed in the recently completed starter tunnel now handle all groundwater inflows.

3. See February 12, 1999, Compliance and Progress Report, pp. 10-16, for the Authority's initial report regarding these issues.

4. The Authority's financial commitment for these four contracts for sewer separation for the CAM 002 and CAM 004 areas, approximately $14.4 million, is well in excess of the Authority's total estimated cost for completing all ten of the contracts for sewer separation in these areas anticipated at the time the Court-ordered schedule for this project was established.

5. See March 15, 1999 Compliance and Progress Report, pp. 10-11.

6. Among previous reports on these projects, see Compliance and Progress Report submitted January 15, 1999, p. 3 and the Combined Sewer Overflow Control Plan 1998 Annual Progress Report submitted March 1, 1999, pp. 14-15.

7. This change responds to a comment by EPA on the July 1997 Final CSO Facilities Plan and Environmental Impact Report that the Authority should evaluate the CSO control benefits and costs of using a larger pipe at this location.

8. See June 15, 1998 Compliance and Progress Report, pp. 12-14, Note 11 for a previous report on this study.

9. See October 15, 1998 Compliance and Progress Report, pp. 12-14 for a report regarding the pumping station.